

## ABSTRACT OF THE DISCLOSURE

An optical repeater is provided for use in an optical communication network wherein only wavelength ranges having desirable gain characteristics are used for communication. Selectively assigning channels to wavelengths having desirable gain characteristics for a given amplifier permits channels to be more closely spaced in the available frequency spectrum. Such an arrangement reduces the cost of optical communication systems by removing the need for gain flattening filters, while maintaining the ability of the network to support a desired number of communication channels.